REMARKS

The Office Action dated October 30, 2007 has been received and considered. Reconsideration of the outstanding rejections in the present application is respectfully requested based on the following remarks.

Anticipation Rejection of Claim 58

At page 2 of the Office Action, claim 58 is rejected under 35 U.S.C. § 102(e) as being anticipated by Deshpande (U.S. Patent No. 7,191,246). This rejection is respectfully traversed.

Deshpande teaches a "method of selecting a data transmission rate for a [sic] heterogeneous network clusters [using] the results of reports of local reception bandwidth and determines an appropriate data rate that either minimizes data loss or minimizes a cost function relating distortion and local bandwidth utilization for each cluster." *Deshpande*, Abstract. Local reception bandwidths 86 for receivers are reported using RTCP reports, which a server periodically evaluates "to identify clusters on the basis of local reception bandwidth 86 and to facilitate dynamic revision of the data rate for selected data streams directed to each of the clusters 88." *Id.*, col. 4, lines 39-44. A clustering algorithm is used "to identify clusters of receivers reporting similar bandwidth." *Id.*, col. 4, lines 45-48. As taught by Deshpande, the "clustering step is carried out periodically at the server 86 using the current cluster centers as the initial cluster centers for the next clustering update." *Id.*, col. 5, lines 1-3. Deshpande further teaches that the "frequency of cluster updating is limited by the processing capabilities of the server. . . ." *Id.*, col. 5, lines 9-11. After the bandwidth clusters are identified, the server selects "a data transmission rate . . . for the data stream directed to each cluster 88." *Id.*, col. 5, lines 15-18.

Turning to independent claim 58, the claim recites the features of "determining, ***at the networked display device***, a first ***multicast address*** from a plurality of multicast addresses based on the first data transmission rate [of a transmission connection of the networked display device], each of the plurality of multicast addresses associated with a corresponding version of a plurality of versions of a video stream." As discussed at pages 3 and 4 of the Response filed October 4, 2007 (hereinafter, "the Previous Response), Deshpande fails to disclose or suggest that

Deshpande's display receivers (alleged to be the claimed network display device) determine a first multicast address from a plurality of multicast addresses based on a data transmission rate of a transmission connection of the receiver. Rather, the above-reproduced passage, along with the sentence that precedes it ("The clustering step is carried out periodically ***at the server 86*** . . ." (emphasis added)), merely teaches that the server 86 periodically reclusters the receivers based on their reported bandwidths. In response, the Office asserts that Deshpande discloses "a system wherein the servers collect information about the bandwidths being experienced by the receivers, and creates multiple streams of a video corresponding to different video resolutions. In the background, Deshpande . . . teaches that ***these*** different video streams can be delivered as a plurality of multicast addresses than an individual subscriber can subscribe to, depending on their bandwidth. This subscribing to a multicast address is being interpreted as being equivalent to a receiver determining a multicast address." *Office Action*, p. 2 (emphasis added). The Applicants respectfully disagree.

As a first issue, while the background of Deshpande discloses that prior-art systems implement receiver-subscribed multicasting of different video streams, the detailed description of Deshpande pertaining to the invention of Deshpande fails to disclose the use of receiver-subscribed multicasting. To wit, it is clear from the background section that the inventors of Deshpande were aware of multicasting techniques, but multicasting is never mentioned or otherwise referenced in the detailed description section that describes the actual invention of Deshpande. The omission of any mention of multicasting in this section tends to discredit the assertion that the video streams generated by the clustering technique of Deshpande are distributed via receiver-subscribed multicasting.

As a second issue, the disclosure of Deshpande fails to suggest to one of ordinary skill in the art that *receiver-subscribed* multicasting can be used in the clustering system of Deshpande. As described above, Deshpande discloses a technique whereby display receivers periodically report their local reception bandwidths, which are used by the server 86 to group the display receivers in clusters having similar local reception bandwidths, and the server 86 then provides to each cluster of display receivers a version of a video stream that is compatible with the local reception bandwidth of the cluster. Referring to Figure A, an example of this process is illustrated:

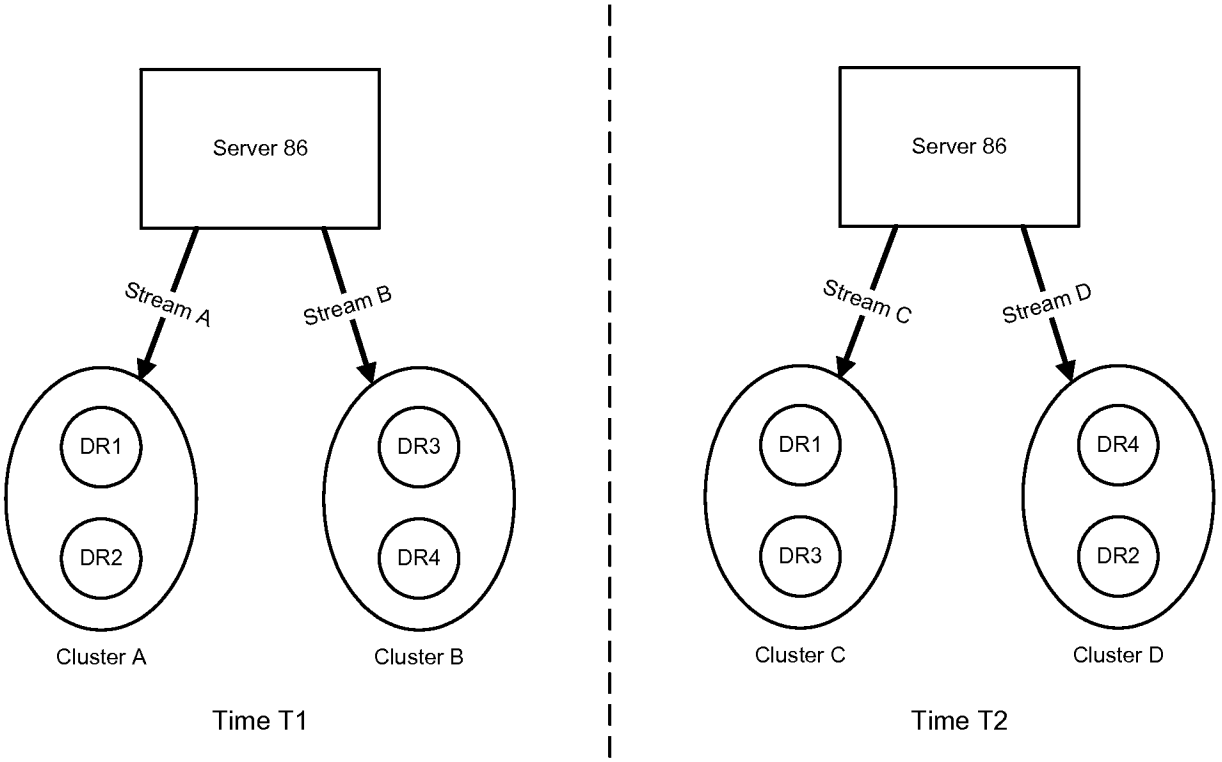

FIGURE A

At time T1 of the example, display receivers DR1 and DR2 are clustered in cluster A and display receivers DR3 and DR4 are clustered in cluster B. Accordingly, the server 86 of Deshpande would provide to the display receivers DR1 and DR2 a video stream A having a bandwidth suitable to a cluster bandwidth determined for cluster A. Likewise, the server 86 would provide to the display receivers DR3 and DR4 a video stream B having a bandwidth suitable to a cluster bandwidth determined for cluster B. At time T2, however, assume that the local reception bandwidths of the display receivers DR1, DR2, DR3, and DR4 have changed such that the server 86 clusters display receivers DR1 and DR3 together in a cluster C and clusters the display receivers DR2 and DR4 together in a cluster D. Accordingly, the server 86 at time T2 would provide to the display receivers DR1 and DR3 a video stream C suitable for the cluster bandwidth of cluster C and would provide to the display receivers DR2 and DR4 a video stream D suitable for the cluster bandwidth of cluster D.

From the above example operation of a system as taught by Desphande, the clustering of display receivers can change over time, and thus the video stream provided to each display receiver can change. If the Office's assertion that the display receivers of Deshpande themselves

select or subscribe to a multicast address associated with the cluster/video stream suitable to its local receiver bandwidth is correct, then each display receiver would need to know (1) when it has been reassigned to a different cluster; and (2) the multicast address of the new cluster to which it has been assigned. For example, when the display receiver D3 switches from cluster B to cluster C, in order for the display receiver D3 itself to select the video stream C after it has been receiving the video stream B, the display receiver D3 would need to know that its cluster assignment has changed, and would also need to know what the multicast address is for the new cluster C. Turning to the disclosure of Deshpande, it is seen that there is no mention of informing the display receivers of a change in clustering in any manner. It is also seen that Deshpande does not disclose or suggest that any address information associated with the cluster to which a display receiver has been assigned is provided to the display receiver in any manner. Without either of these bits of information, it is unclear as to how the display receivers of Deshpande would know when to switch to a different video stream due to changing bandwidth conditions and to which multicast address the display receiver should subscribe to in order to receive the new video stream.

Rather, as discussed above and in the Previous Response, the periodically readjusted clustering as taught by Deshpande is accomplished by changing the video stream transmitted to a display receiver *at the server 86* in response to a change in the cluster to which the display receiver is assigned, rather than having the display receivers play an active role in reassigning themselves to new video streams when clustering changes. Thus, as it is the server 86 that assigns video streams to particular display receivers based on their bandwidth, rather than the display receivers selecting their own video streams based on their bandwidth, Deshpande fails to disclose or suggest at least the features of "determining, ***at the networked display device***, a first ***multicast address*** from a plurality of multicast addresses based on the first data transmission rate [of a transmission connection of the networked display device], each of the plurality of multicast addresses associated with a corresponding version of a plurality of versions of a video stream." Reconsideration and withdrawal of the anticipation rejection of claim 58 therefore is respectfully requested.

Obviousness Rejections of Claims 59-63

At page 3 of the Office Action, claim 59 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande. At page 4 of the Office Action, claim 60 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande in view of Schober (U.S. Patent Publication No. 2001/0044835 A1). At page 4 of the Office Action, claim 61 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande in view of Hinderks (U.S. Patent Publication No. 2002/0067730 A1). At page 5 of the Office Action, claim 62 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande in view of Aho (U.S. Patent No. 6,198,941 B1). At page 6 of the Office Action, claim 63 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande in view of Aho and further in view of Hinderks. These rejections are respectfully traversed.

As discussed above, Deshpande fails to disclose or suggest at least one feature recited by claim 58. The Office Action does not assert that Schober, Hinderks or Aho discloses or suggests those features of claim 58 lacking in Deshpande, nor in fact do these references disclose or suggest those features. Accordingly, the proposed combinations of Deshpande, Schober, Hinderks, and Aho fail to disclose or suggest each and every feature recited by claims 59-63 at least by virtue of their dependency from claim 58. Moreover, these claims recite additional novel features.

To illustrate, claim 61 recites the additional feature of "wherein determining the first multicast address comprises performing a table lookup based on the first data transmission rate." The Office points to the passage of Hinderks at para. 54 as teaching these features. *Office Action,* p. 5. The Office's rationale for combining these references is so as to "enable the system to use a one-way network." *Office Action*, p. 5. The cited passage of Hinderks does not disclose, or even suggest, that the "fixed look-up table" is accessed by the "IP multicast client/recipient" based on its data transmission rate. Further, the clustering process that is central to the method of Deshpande is based on RTCP reports of the local reception that are periodically provided from the receivers to the server. S*ee Deshpande*, col. 4, lines 20 – col. 5 line 14.

The Office responds by asserting that "the modification of Deshpande to a one-way network would be a valid motivation as the return path in Deshpande is used to optimize the

bandwidth usage, of which is not be in used in the rejection of the claim limitations." *Office Action*, p. 3. As stated in MPEP § 2141.02, a prior art reference ***must be considered in its entirety***, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). The main thrust of the system of Deshpande is to use the display receiver's bandwidth feedback to appropriately cluster the display receivers for transmission of the appropriate data streams. Thus, the implementation of a one-way network in Deshpande (by removing the bandwidth feedback path of the display receivers)" would destroy the functionality of the system of Deshpande as a one-way network would prevent the receivers from delivering the RTCP reports to the server. Accordingly, one would not find it obvious to combine the teachings of Deshpande and Hinderks as proposed by the Office.

In view of the foregoing, reconsideration and withdrawal of the obviousness rejections of claims 59-63 is respectfully requested.

Obviousness Rejection of Claim 31

At page 7 of the Office Action, claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheriton (U.S. Patent No. 6,831,971) in view of Deshpande and further in view of Schober. This rejection is respectfully traversed.

Claim 31 recites the features of "determining at the display device a select channel of a plurality of channels of a multicast channel based on the data transmission rate." The Office asserts that Cheriton teaches "subscribing at the display device to a first channel of a plurality of channels" but acknowledges that Cheriton fails to teach that the subscribing is based on a data transmission rate, for which the Office relies on Deshpande under the same rationale described above. *See Office Action*, p. 7.

As discussed above, while Deshpande may disclose determining a data transmission rate for a display device, Deshpande fails to disclose or suggest that it is the display device that selects a channel from a plurality of channels based on the data transmission rate. Rather, Deshpande teaches that it is the server, not the receiver (the alleged display device), that

determines the clusters and determines what data transmission rates to apply to a data stream based on the determined clusters.

Turning to Cheriton, as discussed at pages 1 and 2 of the Remarks in Support of the Pre-Appeal Brief Request for Review mailed January 18, 2007 (hereinafter, "the Pre-Appeal Brief"), Cheriton instead teaches that each subscriber 550 joins the same "single source multicast group (S, G)" and it is the NAT compatible switch 300 (which is separate from the subscribers 550) that remaps different multicast streams to different subscriber groups via virtual network address translation mapping such that "subscribers 550 to such a single-source, virtual host multicast would likely be unable to detect a source transition because ***all of the traffic will appear to the subscribers [550] as originating from a single virtual host (S, G)***". *See, e.g., Cheriton*, col. 3, lines 22-41, col. 3, line 65 – col. 4, line 53, and col. 5, lines 19-21 (emphasis added). Thus, Cheriton clearly teaches that each subscriber 550 subscribes to the same multicast address (i.e., subscribes to the same channel) and it is the NAT compatible switch 300 that reroutes different multicast streams. Thus Cheriton teaches that the subscriber 550 subscribes to the same channel (which is redirected by the NAT compatible switch 300 to the appropriate group) and Cheriton therefore fails to disclose or even suggest that a subscriber 550 (as the alleged "display device") determines a channel of a plurality of channels.

While the Applicants understand the Office's position that Cheriton discloses that a plurality of channels are available for transmission to the subscribers 550 (which the Office considers to be the claimed "display device", Cheriton fails to disclose, or even suggest, that it is the subscriber 550 that determines a first channel from these channels (i.e., selects a particular multicast group of a plurality of multicast groups). Rather, as discussed at page 7 of the Previous Response, it will be understood that Cheriton teaches an alternate embodiment whereby a headend router, which is separate from the subscribers 550, can perform network translation so that "packets representing the low resolution component" can be translated to one multicast channel and "high-resolution component packets" can be translated to another channel. As disclosed by Cheriton, every "listening host"/subscriber 550 subscribes to the same "single-source multicast group" and thus, in this alternate embodiment, the headend router, rather than the "listening host"/subscriber, determines whether a "listening host"/subscriber 550 is to receive

the high-resolution channel or the low-resolution channel. S*ee, e.g., Cheriton*, Abstract and col. 4, line 40.

Thus, as discussed above, a subscriber 550 subscribes to the same multicast address, and it is the NAT compatible switch 300 that determines which of the low-resolution channel or the high resolution channel is to be transmitted to the subscriber 550. Therefore, it is the NAT compatible switch 300, rather than the subscriber 550/display device, that determines the select channel of a plurality of channels, and not the **display device** as recited by claim 31. Accordingly, Cheriton fails to disclose or suggest at least the features of "determining **at the display device** a first channel of a plurality of channels" as recited by claim 31. Further, as Deshpande fails to disclose these features and as the Office does not assert that Schober discloses or suggests these features (and in fact Schober does not disclose or suggest these features), the proposed combination of Cheriton, Deshpande, and Schober fails to disclose or suggest the claimed features of "determining at the display device a first channel of a plurality of channels," much less that the first channel is determined based on a data transmission rate between the display device and a wireless access point as provided by claim 31. The proposed combination of Cheriton, Deshpande, and Schober therefore fails to disclose or suggest each and every feature recited by claim 31.

Obviousness Rejection of Claim 32

At page 8 of the Office Action, claim 32 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheriton in view of Deshpande in view of Schober and further in view of Sachs (U.S. Patent Publication No. 2002/0080802). This rejection is respectfully traversed.

Claim 32 depends from claim 31. As discussed above, the proposed combination of Cheriton, Deshpande, and Schober fails to disclose or suggest features recited by claim 31. The Office does not assert that Sachs discloses or suggests these features of claim 31 missing from the teachings of Cheriton, Deshpande, and Schober, nor in fact does Sachs disclose or suggest these missing features. Accordingly, the proposed combination of Cheriton, Deshpande, Schober and Sachs fails to disclose or suggest each and every feature recited by claim 32 at least by virtue of its dependency from claim 31. Moreover, claim 32 recites additional novel features.

Reconsideration and withdrawal of the obviousness rejection of claim 32 therefore is respectfully requested.

Conclusion

The Applicants respectfully submit that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Applicants believe no additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-1835.

Respectfully submitted,

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